

REMARKS

Claims 1-4 are pending in the application. Claim 1 is amended herein. Applicants respectfully request reconsideration of the present application in view of the above amendments and following remarks.

Drawing Objections

In part 1 of the Office Action, the Examiner objects to the absence of Fig. 1A. However, in a Preliminary Amendment filed on January 9, 2003, the present application was amended to include Fig. 1A. Applicant requests that the preliminary amendment be entered, and that the Examiner accordingly withdraw the drawing objection.

Claim Rejections Under 35 USC §112

In parts 2-3 of the Office Action, the Examiner rejects claims 1-4 for indefiniteness under §112, second ¶. This rejection arises from improper antecedent basis for the expression “cell cavities” in claim 1, ln. 7. The improper antecedent basis also affects claims 2-4 which depend from claim 1.

In response, Applicants have amended claim 1 by adding the antecedent expression “having one or more cell cavities” to claim 1, ln.2. Claim 1, ln. 6-7 have also been amended by adding the modifying term “one or more” before “cell cavities” to maintain a proper antecedent reference. Claim 1, ln.7 has been amended by deleting the expression “within the power source” because Applicants believe this expression is equivalent to the expression “having one or more cell cavities” that has been added to claim 1, ln.2.

Applicants submit that the amendments to claim 1 are fully supported in the specification, e.g. at p.4, ln.17-20; p.12, ln.14-19. Applicants therefore request entry of claim 1 as currently amended, and withdrawal of the §112 rejection of claims 1-4.

Claim Rejections Under 35 USC §102

In parts 4-5 of the Office Action, the Examiner rejects claims 1-2 under §102(b) as being anticipated by Robison in U.S. Patent No. 5,558,947. Applicants respectfully traverse this rejection.

It is well settled in the law that in order for a prior art reference to anticipate in terms of 35 U.S.C. §102, every element of the claimed invention must be identically shown in a single

reference. *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 677, 7 U.S.P.Q.2d 1315, 1317 (Fed. Cir. 1988). For a proper rejection of a claim under 35 U.S.C. §102(b), the cited reference must disclose all elements/features/steps of the claim. See, e.g., *E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 7 USPQ2d 1129 (Fed. Cir. 1988). It is axiomatic that "[a]nticipation requires the disclosure in a single prior art reference of *each element* of the claim under consideration." *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554, 220 U.S.P.Q. 303,313 (Fed. Cir. 1983)(emphasis added). Therefore, every claimed feature of the claimed invention must be represented in the applied reference to constitute a proper rejection under 35 U.S.C. §102.

The Examiner cites to Robison for its teachings related to fuel storage units and multiple flow paths among fuel storage units and power sources. In particular, the Examiner cites to Robison Figs.1 and 8; col.8, ln.12 to col.9, ln.54; and col.12, ln.66 to col.13, ln.45. Based on the disclosures therein, the Examiner asserts that Robison anticipates claim 1 of the present application, namely,

*"a power source having one or more cell cavities;
a fuel storage unit for containing flowable fuel;
a first flow path for providing flowable fuel from the fuel storage unit to the power source;
a second flow path for providing flowable fuel, which has not been deposited into the one or more cell cavities, back to the fuel storage unit; and
a third flow path for providing unused and/or partially used fuel and/or reaction product(s) and/or spent reaction solution to a one or more of a reaction product storage unit, the fuel storage unit, and the second flow path."*

The Examiner refers to Fig.1 of Robison, and asserts first that "line 14 is the second flow path" and also that "third flow path is also line 14 which provides reaction products back to the source 12." Applicants disagree that line 14 can function as both second and third flow paths. Applicants also disagree that line 14 anticipates *"a second flow path for providing flowable fuel, which has not been deposited into the one or more cell cavities, back to the fuel storage unit."*

Robison's Line 14 is disclosed as a singular "output conduit." Robison, col.8, ln.42-43. Therefore, line 14 cannot reasonably be said to represent both a second and a third flow path.

Line 14 is a single conduit, as disclosed in Robison's specification, and as modeled by Robison in Fig.1. In contrast, the present invention discloses separate and distinct second and third flow paths. *See* application at p.16, ln.7-27 and Fig.2. The "second flow path" claimed in claim 1, and described as "Q3" on p.16, returns flowable fuel not deposited into a cell cavity of cell stack 508 back to fuel tank 502. The "third flow path" claimed in claim 1, and described as "Q2" on p.16, returns partially dissolved fuel pellets that were deposited into a cell cavity of cell stack 508 back to fuel tank 502. Note that "Q2" is a separate flow path that is in parallel with Q3. *Id.* Since Robison's line 14 has already been identified by the Examiner as being the second of three separate flow paths, it cannot also be credited as constituting the third of three flow paths.

Moreover, Robison does not anticipate the "second flow path" as claimed because Robison does not suggest or anticipate a flow path for *undeposited* fuel particles exiting battery cell 12. In fact, Robison anticipates that all particles flowing into battery cell 12 will oxidize. *See* Robison, col.7, ln.6-9 and ln.37-42. That is why Robison does not suggest the use of a "second" separate flow path reserved for "providing flowable fuel, which has not been deposited into the one or more cell cavities, back to the fuel storage unit."

Since Robison does not anticipate three separate flow paths as claimed in claims 1-2 of the present application, and in particular, since Robison does not anticipate a separate flow path for undeposited fuel particles, the §102(b) rejections based on Robison cannot stand. Applicants therefore respectfully request that the Examiner withdraw the §102(b) rejections based on Robison.

In part 6 of the Office Action, the Examiner rejects claim 1 under §102(e) as being anticipated by either Haltiner, Jr. (Haltiner) in U.S. Patent Application No. 2001/0049039 or Colborn in U.S. Patent Application No. 2003/0035984. Applicants respectfully traverse these rejections.

Regarding Haltiner, the Examiner cites to the Abstract, Fig.1, and paragraphs 0013-0019 for teachings related to fuel storage units and multiple flow paths. Based on disclosures therein, the Examiner asserts that Haltiner anticipates claim 1 of the present application. In particular, the Examiner asserts that Haltiner's "waste energy recovery 26 is the fuel storage unit where 33 is the first flow path and 34 is the second flow path." The Examiner also asserts that "the second flow path 34 is also the third flow path...."

Applicants respectfully disagree with the Examiner's interpretations of Haltiner's teachings. Haltiner's waste energy recovery (WER) 26 cannot reasonably be construed as a fuel storage unit. WER 26 is nothing more than a heat exchanger that sinks heat away from the exhaust lines of the fuel cell stack. *See* Haltiner, ¶0013, ln.7-8; and ¶0026. As such, it does not store fuel, and therefore cannot comprise a fuel storage unit for containing flowable fuel, as claimed in claim 1 of the present invention.

Furthermore, the Examiner's assertion that "the second flow path 34 is also the third flow path" fails to show anticipation of three separate and distinct flow paths for the same reasons presented above regarding the Robison reference. Therefore, Haltiner's single conduit 34 cannot constitute separate second and third flow paths as claimed in claim 1.

Since Haltiner does not anticipate either a fuel storage unit, or three separate flow paths as claimed in claim 1 of the present application, the §102(e) rejections based on Haltiner cannot stand. Applicants therefore respectfully request that the Examiner withdraw the §102(e) rejection of claim 1.

Regarding Colborn, the Examiner cites to Fig.1 and paragraphs 0016-0027 as anticipating the claimed fuel storage unit and first, second and third flow paths. Applicants, one of whom is Jeffrey Colborn, the same inventor named on the cited reference 2003/0035984, disagree that the prior Colborn reference discloses the claimed second flow path. A novel feature of the present application is the second flow path claimed in claim 1, and described as "Q3" on p.16 of the specification. The second flow path Q3 returns flowable fuel not deposited into a cell cavity of the cell stack back to the fuel storage tank. *See* application at p.16, ln.7-27 and Fig.2. This feature is distinguishable over the prior Colborn reference because that reference does not anticipate a separate flow path for transporting undeposited fuel particles. Applicants therefore respectfully request that the Examiner withdraw this §102(e) rejection of claim 1.

Claim Rejections Under 35 USC §103

In parts 7-9 of the Office Action, the Examiner rejects claims 3-4 for obviousness over either Robison or Haltiner or Colborn, each taken in view of both Digne (U.S. Patent No. 4,362,789) and Linden (Handbook of Batteries, 2nd Ed.). The Examiner cites to Digne for its teachings related to demisters, and to Linden for its teachings related to voltage boosters.

According to MPEP § 706.02(j), for a claim to be obvious, there must be: (a) a suggestion or motivation to combine reference teachings; (b) a reasonable expectation of success; and (c) the references must teach all of the claim limitations. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). It is well established at law that, for a proper rejection of a claim under 35 U.S.C. §103 as being obvious based upon a combination of references, the cited combination of references must disclose, teach, or suggest, either implicitly or explicitly, all elements/features/steps of the claim at issue. See, e.g., *In re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q.2d 871, 881 (C.C.P.A. 1981).

Applicants respectfully traverse the §103 rejections based on Robison, Haltiner, and Colborn by reasserting the above arguments against the §102 rejections. Since claims 3 and 4 depend from claim 1, and since neither Robison nor Haltiner nor Colborn teach the limitation of three separate flow paths, in particular, *a second flow path for providing flowable fuel, which has not been deposited into the one or more cell cavities, back to the fuel storage unit*, there is no combination of Robison, Haltiner, Colborn, Digne, and Linden that can meet all of the limitations of claim 3 or 4. Applicants therefore submit that the §103 rejections cannot stand, and respectfully request that these rejections also be withdrawn.

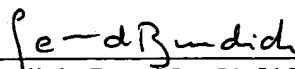
Regarding Colborn, Applicants also traverse the rejection under §102(e)/103 by showing common ownership of the Colborn application and the present application, by virtue of common assignee. MPEP §715.01(b). The undersigned attests that both the present application and U.S. Patent Application No. 2003/0035984 to Colborn were, at the time the invention was made, owned by, or subject to an obligation of assignment to the same person, namely, Metallic Power, Inc., the assignee of record of both applications.

In view of all of the above, Applicants believe that claims 1-4, as amended, are now allowable. Applicants therefore respectfully request that the Examiner pass this application to issuance.

In papers filed concurrently with this Response, Applicants have authorized payment of a one-month extension fee. Applicants believe no other fees are due at this time. If any additional fees are in fact due, the Commissioner is hereby authorized to charge Howrey Deposit Account No. **08-3038** for the same, referencing Howrey Dkt. No. **04813.0028.NPUS00**.

Respectfully submitted,

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